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Generation of longitudinal plasma oscillations by gravitational perturbations in an isotropic universe

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Abstract

The electric charge density induced by scalar gravitational perturbations in the lepton and radiation-dominated stages of the expansion of the universe is calculated. It is shown that the formation of clusters of matter is accompanied in the radiation-dominated stage by a build-up of positive charge in the central regions of the cluster. The charge-mass relation of the clusters is calculated. © 1986 Plenum Publishing Corporation.

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